

30 AUG 01

PERFORMANCE DESCRIPTION

For Transmitter Assembly

1. SCOPE

1.1 Scope. This performance description establishes requirements for a transmitter to provide commands to the Target Holding Mechanism/Tank Gunnery (THM/TG) through Receiver Assembly, P/N 11784801 or P/N 12974102.

2. APPLICABLE DOCUMENTS

2.1.1 Government Specifications and Standards.

MIL-STD-810F	Environmental Test Methods and Engineering Guidelines (reference only)
MIL-R-70834	Receiver, Channel X: 11784801
MIL-A-70833	Automatic Tank Target: 11784501 (reference only)

2.1.2 Government Drawings

11784700	Transmitter Assembly (reference only)
PS 11784700	Special Packaging Instructions for Transmitter Assembly (reference only)
11784801	Receiver Assembly
12974102	Receiver Assembly

2.1.3 Order of Precedence. In the event of conflict between the text of this document and the references cited, the text of this performance description takes precedence. Nothing in this document, however, supersedes applicable laws and regulations.

3. REQUIREMENTS

3.1 Function. The transmitter will be used as a portable device to control the Target Holding Mechanism/Tank Gunnery (THM/TG), MIL-A-70833. The transmitter shall accomplish this by transmitting digital code to Receiver, Part Number 11784801, MIL-R-70834, and Part Number 12974102 within the range of parameters specified in 3.3 and 3.4 of this document. This transmission will cause the Receiver to perform its output function of sending hardwire commands to the THM/TG of raise target, lower target, or fire a simulator. The transmitter carrier frequency requirement of section 3.4 can be satisfied by either one or two transmitters, if together they provide coverage of the entire frequency spectrum and they individually meet the remainder of the requirements of sections 3.2, 3.3, and 3.4. If two transmitters are offered, the government will procure that transmitter with the frequency range that meets the government's requirements. A commercial manual, a power supply with charging unit, and a spare battery will be supplied with each item.

3.2 General Requirements

3.2.1 Weight. The transmitter shall be carried by a shoulder strap and will be operable while supported by that strap. With self contained power supply the unit will weigh no more than 11 lb.

3.2.2 Form. The device will have a panel for instruction and display. The panel will provide a means for manually entering the instructions required in section 3.3 and a display which will indicate what selections have been entered and warning of a low battery. The manual entries will be possible by someone wearing standard issue gloves. The display will be visible day and night.

3.2.3 Duty Cycle. The transmitter will be capable of performing 2000 commands in an 8 hour period without replacing the self contained power supply. The power supply will be replaceable in no longer than 60 seconds and will be completely rechargeable in 8 hours or less. The system will be configured to provide protection against reverse polarity. The transmitter will be capable of remaining in standby mode for 1000 hrs without discharging to below operational capability. When the power supply has discharged to below a safe operating level, an indicator will be displayed.

3.2.4 Service Life. The transmitter will have a service life of at least ten years.

3.3 Performance.

- 3.3.1 Commands. The transmitter shall transmit a digital code by RF to the THM/TG receiver. The code will command target up, target down, or fire a simulator.
- 3.3.2 Operation. The transmitter shall be capable of sending commands over any of 5 preset channels which will be selectable on the panel. These channels will represent 5 different selectable frequencies as described in section 3.4.
- 3.3.3 Selected Channels. Each channel shall be capable of commanding 8 receivers individually and together in a cluster. The 3 commands will be selectable for each of the 8 receivers and a 9th option to command all 8 as a cluster.
- 3.3.4 Signals. The code will consist of a 7 bit word containing the channel number and the command. The first two bits provide the command. The next four bits identify the receiver. The seventh bit is blank and provides a synchronization pause. Each bit is 16.4 ms long and divided into two segments, a long and a short. Each segment contains a signal of 2.6 KHz or 1.95 KHz. If the long segment is at the higher frequency, the bit is binary 1, and if the longer segment is at the low frequency, the bit is binary 0. Figure 1 is an illustration of the bit timing and modulation. Table 1 is the truth table for the three commands and eight receivers.

3.4 RF Requirements.

- a. The transmitter carrier frequency will be adjustable to any and all frequencies required by 3.4c in a range of 138 MHz to 153 MHz. Five preset frequencies will be selectable by channel. The channels will each represent a preset frequency.
- b. Assigning a frequency for each channel shall not require any additional equipment and will be achievable in less than 15 minutes.
- c. Frequencies shall be tunable to each integer mHz value in the range specified and all 25 kHz increments between.
- d. Transmitter shall have frequency stability of 2.5 KHz or less.
- e. Accuracy of set frequency will be plus or minus 3 KHz.
- f. The transmitter shall have transmitting power between 5 and 8 watts.
- g. The transmitter harmonic and spurious radiation shall not exceed 2 microwatts.
- h. The antenna impedance shall not exceed 50 ohms.

3.5 Environmental requirements

3.5.1 Temperature

- 3.5.1.1 Operating. The transmitter shall meet the requirements of 3.3 and 3.4 when stabilized thermally at -13 degrees F and 125 degrees F.
- 3.5.1.2 Storage. The transmitter, when subjected to at least four hours at each temperature extreme of -40 degrees F and +160 degrees F shall meet the requirements of 3.3 and 3.4 when returned to and stabilized at ambient temperature.
- 3.5.2 Vibration. The transmitter shall meet the requirements of 3.3 and 3.4 after being subjected to Method 514, Procedure II-Category 5, using figure 514.5C-2 of MIL-STD -810F, or similar, for 20 minutes of random vibration in each axis.
- 3.5.3 Shock. The transmitter shall meet the requirements of 3.3 and 3.4 after being dropped onto 50 mm plywood over concrete per Method 516.5, Procedure 4 of MIL-STD-810F, or similar.
- 3.5.4 Immersion. The transmitter shall show no evidence of internal moisture after being subjected to at least 2 hours of immersion in three feet of water.

4. QUALITY ASSURANCE PROVISIONS

- 4.1.1 Quality Assurance. A functional demonstration may be performed at the discretion of the government to ensure the transmitter meets the requirements of section 3. This functional demonstration will be performed using one representative unit. For sections 3.2 and 3.5, in lieu of the functional demonstration, the contractor may elect to certify and provide substantiating evidence that the device meets the requirements set forth in those sections.

5. PACKAGING

- 5.1 General. Preservation, packaging, packing, and marking requirements are specified in Section D of the solicitation.

Figure 1 Baseband Signal Timing

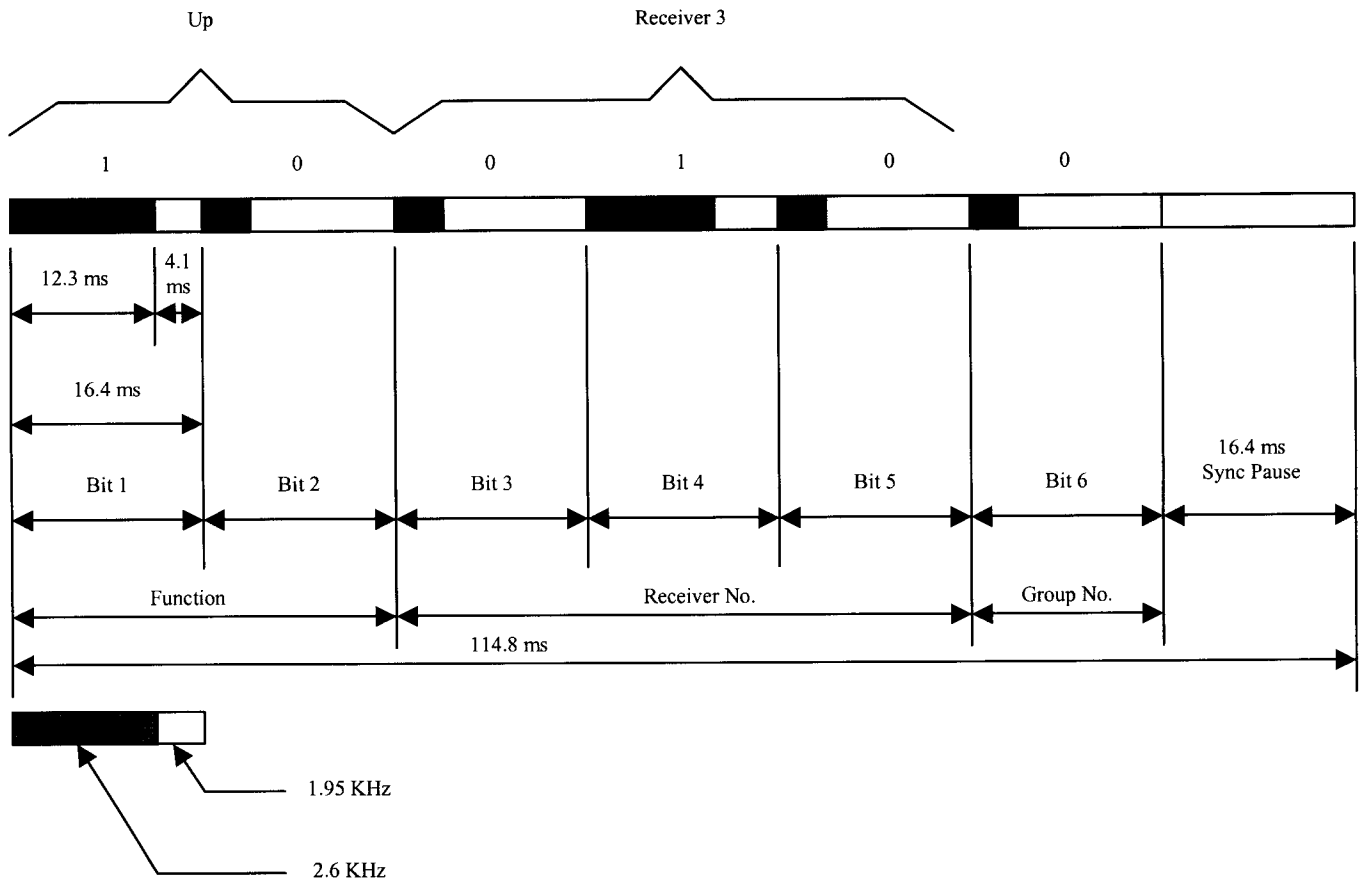


Table 1 BASEBAND SIGNAL CODING

FUNCTION	BIT	
	1	2
-----	0	0
FIRE	1	1
UP	1	0
DOWN	0	1

RECEIVER #	BIT			
	3	4	5	6
1	0	0	0	0
2	1	0	0	0
3	0	1	0	0
4	1	1	0	0
5	0	0	1	0
6	1	0	1	0
7	0	1	1	0
8	1	1	1	0
1-8 (GROUP)	0	0	0	1

The message is repeated for 0.6 seconds for a momentary button push or continuously if the button is held down.

Note: The offeror shall fill in only the unit price blocks. All other spaces are for Government evaluation purposes only.

16 Aug 2001
Revision 1

**PRICE EVALUATION SHEET
SOLICITATION DAAE20-01-T-0402**

CLIN 0001 - Transmitter Assembly

Minimum Guaranteed Quantity: 3 EACH

Order Quantity Range	Ordering Period 1		Ordering Period 2		Ordering Period 3		Ordering Period 4		Ordering Period 5	
	Unit Price	Wgt.	Unit Price	Wgt.	Unit Price	Wgt.	Unit Price	Wgt.	Unit Price	Wgt.
1 - 4	\$	70%	\$	25%	\$	25%	\$	25%	\$	25%
5 - 10	\$	25%	\$	70%	\$	70%	\$	70%	\$	70%
11 - 20	\$	5%	\$	5%	\$	5%	\$	5%	\$	5%
Weighted Unit Price		100%		100%		100%		100%		100%
Evaluated Price										
Evaluated CLIN Price										

The Evaluated Price will be calculated by multiplying each Unit Price by its respective weight and by the minimum quantity within each Order Quantity Range. The result for each Order Quantity Range is summed within each Ordering Period. The sum of all the Ordering Period Evaluated Prices will be the Total Evaluated Price.

NOTE: To be used for second Transmitter (if needed)

Minimum Guaranteed Quantity: Reference CLIN 0001 above

Order Quantity Range	Ordering Period 1		Ordering Period 2		Ordering Period 3		Ordering Period 4		Ordering Period 5	
	Unit Price	Wgt.	Unit Price	Wgt.	Unit Price	Wgt.	Unit Price	Wgt.	Unit Price	Wgt.
1 - 4	\$	70%	\$	25%	\$	25%	\$	25%	\$	25%
5 - 10	\$	25%	\$	70%	\$	70%	\$	70%	\$	70%
11 - 20	\$	5%	\$	5%	\$	5%	\$	5%	\$	5%
Weighted Unit Price		100%		100%		100%		100%		100%
Evaluated Price										
Evaluated CLIN Price										

52.212-4 Contract Terms and Conditions--Commercial Items.

As prescribed in 12.301 (b)(3), insert the following clause:

CONTRACT TERMS AND CONDITIONS--COMMERCIAL ITEMS (MAY 2001)

(a) Inspection/Acceptance. The Contractor shall only tender for acceptance those items that conform to the requirements of this contract. The Government reserves the right to inspect or test any supplies or services that have been tendered for acceptance. The Government may require repair or replacement of nonconforming supplies or reperformance of nonconforming services at no increase in contract price. The Government must exercise its post-acceptance rights--

(1) Within a reasonable time after the defect was discovered or should have been discovered; and

(2) Before any substantial change occurs in the condition of the item, unless the change is due to the defect in the item.

(b) Assignment. The Contractor or its assignee may assign its rights to receive payments due as a result of performance of this contract to a bank, trust company, or other financing institution, including any Federal lending agency in accordance with the Assignment of Claims Act (31 U.S.C. 3727). However, when a third party makes payment (e.g., use of the Governmentwide commercial purchase card), the Contractor may not assign its rights to receive payment under this contract.

(c) Changes. Changes in the terms and conditions of this contract may be made only by written agreement of the parties.

(d) Disputes. This contract is subject to the Contract Disputes Act of 1978, as amended (41 U.S.C. 601-613). Failure of the parties to this contract to reach agreement on any request for equitable adjustment, claim, appeal or action arising under or relating to this contract shall be a dispute to be resolved in accordance with the clause at FAR 52.233-1, Disputes, which is incorporated herein by reference. The Contractor shall proceed diligently with performance of this contract, pending final resolution of any dispute arising under the contract.

(e) Definitions. The clause at FAR 52.202-1, Definitions, is incorporated herein by reference.

(f) Excusable delays. The Contractor shall be liable for default unless nonperformance is caused by an occurrence beyond the reasonable control of the Contractor and without its fault or negligence such as, acts of God or the public enemy, acts of the Government in either its sovereign or contractual capacity, fires, floods, epidemics, quarantine restrictions, strikes, unusually severe weather, and delays of common carriers. The Contractor shall notify the Contracting Officer in writing as soon as it is reasonably possible after the commencement of any excusable delay, setting forth the full particulars in connection therewith, shall remedy such occurrence with all reasonable dispatch, and shall promptly give written notice to the Contracting Officer of the cessation of such occurrence.

(g) Invoice. The Contractor shall submit an original invoice and three copies (or electronic invoice, if authorized,) to the address designated in the contract to receive invoices. An invoice must include--

(1) Name and address of the Contractor;

(2) Invoice date;

(3) Contract number, contract line item number and, if applicable, the order number;

(4) Description, quantity, unit of measure, unit price and extended price of the items delivered;

(5) Shipping number and date of shipment including the bill of lading number and weight of shipment if shipped on Government bill of lading;

(6) Terms of any prompt payment discount offered;

(7) Name and address of official to whom payment is to be sent; and

(8) Name, title, and phone number of person to be notified in event of defective invoice. Invoices will be handled in accordance with the Prompt Payment Act (31 U.S.C. 3903) and Office of Management and Budget (OMB) Circular A-125, Prompt Payment. Contractors are encouraged to assign an identification number to each invoice.

(h) Patent indemnity. The Contractor shall indemnify the Government and its officers, employees and agents against liability, including costs, for actual or alleged direct or contributory infringement of, or inducement to infringe, any United States or foreign patent, trademark or copyright, arising out of the performance of this contract, provided the Contractor is reasonably notified of such claims and proceedings.

(i) Payment. Payment shall be made for items accepted by the Government that have been delivered to the delivery destinations set forth in this contract. The Government will make payment in accordance with the Prompt Payment Act (31 U.S.C. 3903) and Office of Management and Budget (OMB) Circular A-125, Prompt Payment. If the Government makes payment by Electronic Funds Transfer (EFT), see 52.212-5 (b) for the appropriate EFT clause. In connection with any discount offered for early payment, time shall be computed from the date of the invoice. For the purpose of computing the discount earned, payment shall be considered to have been made on the date which appears on the payment check or the specified payment date if an electronic funds transfer payment is made.

(j) Risk of loss. Unless the contract specifically provides otherwise, risk of loss or damage to the supplies provided under this contract shall remain with the Contractor until, and shall pass to the Government upon:

(1) Delivery of the supplies to a carrier, if transportation is f.o.b. origin; or

(2) Delivery of the supplies to the Government at the destination specified in the contract, if transportation is f.o.b. destination.

(k) Taxes. The contract price includes all applicable Federal, State, and local taxes and duties.

(l) Termination for the Government's convenience. The Government reserves the right to terminate this contract, or any part hereof, for its sole convenience. In the event of such termination, the Contractor shall immediately stop all work hereunder and shall immediately cause any and all of its suppliers and subcontractors to cease work. Subject to the terms of this contract, the Contractor shall be paid a percentage of the contract price reflecting the percentage of the work performed prior to the notice of termination, plus reasonable charges the Contractor can demonstrate to the satisfaction of the Government using its standard record keeping system, have resulted from the termination. The Contractor shall not be required to comply with the cost accounting standards or contract cost principles for this purpose. This paragraph does not give the Government any right to audit the Contractor's records. The Contractor shall not be paid for any work performed or costs incurred which reasonably could have been avoided.

(m) Termination for cause. The Government may terminate this contract, or any part hereof, for cause in the event of any default by the Contractor, or if the Contractor fails to comply with any contract terms and conditions, or fails to provide the Government, upon request, with adequate assurances of future performance. In the event of termination for cause, the Government shall not be liable to the Contractor for any amount for supplies or services not accepted, and the Contractor shall be liable to the Government for any and all rights and remedies provided by law. If it is determined that the Government improperly terminated this contract for default, such termination shall be deemed a termination for convenience.

(n) Title. Unless specified elsewhere in this contract, title to items furnished under this contract shall pass to the Government upon acceptance, regardless of when or where the Government takes physical possession.

(o) Warranty. The Contractor warrants and implies that the items delivered hereunder are merchantable and fit for use for the particular purpose described in this contract.

(p) Limitation of liability. Except as otherwise provided by an express or implied warranty, the Contractor will not be liable to the Government for consequential damages resulting from any defect or deficiencies in accepted items.

(q) Other compliances. The Contractor shall comply with all applicable Federal, State and local laws, executive orders, rules and regulations applicable to its performance under this contract.

(r) Compliance with laws unique to Government contracts. The Contractor agrees to comply with 31 U.S.C. 1352 relating to limitations on the use of appropriated funds to influence certain Federal contracts; 18 U.S.C. 431 relating to officials not to benefit; 40 U.S.C 327, et seq., Contract Work Hours and Safety Standards Act; 41 U.S.C. 51-58, Anti-Kickback Act of 1986; 41 U.S.C. 265 and 10 U.S.C. 2409 relating to whistle blower protections; 49 U.S.C 40118, Fly American; and 41 U.S.C. 423 relating to procurement integrity.

(s) Order of precedence. Any inconsistencies in this solicitation or contract shall be resolved by giving precedence in the following order:

(1) The schedule of supplies/services.

(2) The Assignments, Disputes, Payments, Invoice, Other Compliances, and Compliance with Laws Unique to Government Contracts paragraphs of this clause.

(3) The clause at 52.212-5 .

(4) Addenda to this solicitation or contract, including any license agreements for computer software.

(5) Solicitation provisions if this is a solicitation.

(6) Other paragraphs of this clause.

(7) The Standard Form 1449.

(8) Other documents, exhibits, and attachments.

(9) The specification.

(End of clause)

[66 FR 2140, January 10, 2001]

52.212-1 Instructions to Offerers--Commercial Items.

As prescribed in 12.301 (b) (1), insert the following provision:

INSTRUCTIONS TO OFFERORS--COMMERCIAL ITEMS (OCT 2000)

(a) North American Industry Classification System (NAICS) code and small business size standard. The NAICS code and small business size standard for this acquisition appear in Block 10 of the solicitation cover sheet (SF 1449). However, the small business size standard for a concern which submits an offer in its own name, but which proposes to furnish an item which it did not itself manufacture, is 500 employees.

(b) Submission of offers. Submit signed and dated offers to the office specified in this solicitation at or before the exact time specified in this solicitation. Offers may be submitted on the SF 1449, letterhead stationery, or as otherwise specified in the solicitation. As a minimum, offers must show--

- (1) The solicitation number;
- (2) The time specified in the solicitation for receipt of offers;
- (3) The name, address, and telephone number of the offeror;
- (4) A technical description of the items being offered in sufficient detail to evaluate compliance with the requirements in the solicitation. This may include product literature, or other documents, if necessary;
- (5) Terms of any express warranty;
- (6) Price and any discount terms;
- (7) 'Remit to' address, if different than mailing address;
- (8) A completed copy of the representations and certifications at FAR

52.212-3 ;

- (9) Acknowledgment of Solicitation Amendments;
- (10) Past performance information, when included as an evaluation factor, to include recent and relevant contracts for the same or similar items and other references (including contract numbers, points of contact with telephone numbers and other relevant information); and
- (11) If the offer is not submitted on the SF 1449, include a statement specifying the extent of agreement with all terms, conditions, and provisions included in the solicitation. Offers that fail to furnish required representations or information, or reject the terms and conditions of the solicitation may be excluded from consideration.

(c) Period for acceptance of offers. The offeror agrees to hold the prices in its offer firm for 30 calendar days from the date specified for receipt of offers, unless another time period is specified in an addendum to the solicitation.

(d) Product samples. When required by the solicitation, product samples shall be submitted at or prior to the time specified for receipt of offers. Unless otherwise specified in this solicitation, these samples shall be submitted at no expense to the Government, and returned at the sender's request and expense, unless they are destroyed during preaward testing.

(e) Multiple offers. Offerors are encouraged to submit multiple offers presenting alternative terms and conditions or commercial items for satisfying the requirements of this solicitation. Each offer submitted will be evaluated separately.

(f) Late submissions, modifications, revisions, and withdrawals of offers.
 (1) Offerors are responsible for submitting offers, and any modifications, revisions, or withdrawals, so as to reach the Government office designated in the solicitation by the time specified in the solicitation. If no time is specified in the solicitation, the time for receipt is 4:30 p.m., local time, for the designated Government office on the date that offers or revisions are due.

(2) (i) Any offer, modification, revision, or withdrawal of an offer received at the Government office designated in the solicitation after the exact time specified for receipt of offers is 'late' and will not be considered unless

it is received before award is made, the Contracting Officer determines that accepting the late offer would not unduly delay the acquisition; and--

(A) If it was transmitted through an electronic commerce method authorized by the solicitation, it was received at the initial point of entry to the Government infrastructure not later than 5:00 p.m. one working day prior to the date specified for receipt of offers; or

(B) There is acceptable evidence to establish that it was received at the Government installation designated for receipt of offers and was under the Government's control prior to the time set for receipt of offers; or

(C) If this solicitation is a request for proposals, it was the only proposal received.

(ii) However, a late modification of an otherwise successful offer, that makes its terms more favorable to the Government, will be considered at any time it is received and may be accepted.

(3) Acceptable evidence to establish the time of receipt at the Government installation includes the time/date stamp of that installation on the offer wrapper, other documentary evidence of receipt maintained by the installation, or oral testimony or statements of Government personnel.

(4) If an emergency or unanticipated event interrupts normal Government processes so that offers cannot be received at the Government office designated for receipt of offers by the exact time specified in the solicitation, and urgent Government requirements preclude amendment of the solicitation or other notice of an extension of the closing date, the time specified for receipt of offers will be deemed to be extended to the same time of day specified in the solicitation on the first work day on which normal Government processes resume.

(5) Offers may be withdrawn by written notice received at any time before the exact time set for receipt of offers. Oral offers in response to oral solicitations may be withdrawn orally. If the solicitation authorizes facsimile offers, offers may be withdrawn via facsimile received at any time before the exact time set for receipt of offers, subject to the conditions specified in the solicitation concerning facsimile offers. An offer may be withdrawn in person by an offeror or its authorized representative if, before the exact time set for receipt of offers, the identity of the person requesting withdrawal is established and the person signs a receipt for the offer.

(g) Contract award (not applicable to Invitation for Bids). The Government intends to evaluate offers and award a contract without discussions with offerors. Therefore, the offeror's initial offer should contain the offeror's best terms from a price and technical standpoint. However, the Government reserves the right to conduct discussions if later determined by the Contracting Officer to be necessary. The Government may reject any or all offers if such action is in the public interest; accept other than the lowest offer; and waive informalities and minor irregularities in offers received.

(h) Multiple awards. The Government may accept any item or group of items of an offer, unless the offeror qualifies the offer by specific limitations. Unless otherwise provided in the Schedule, offers may not be submitted for quantities less than those specified. The Government reserves the right to make an award on any item for a quantity less than the quantity offered, at the unit prices offered, unless the offeror specifies otherwise in the offer.

(i) Availability of requirements documents cited in the solicitation.

(1)(i) The GSA Index of Federal Specifications, Standards and Commercial Item Descriptions, FPMR Part 101-29, and copies of specifications, standards, and commercial item descriptions cited in this solicitation may be obtained for a fee by submitting a request to--

GSA Federal Supply Service Specifications Section
Suite 8100, 470 L'Enfant Plaza, SW
Washington, DC 20407
Telephone (202) 619-8925

Facsimile (202) 619-8978.

(ii) If the General Services Administration, Department of Agriculture, or Department of Veterans Affairs issued this solicitation, a single copy of specifications, standards, and commercial item descriptions cited in this solicitation may be obtained free of charge by submitting a request to the addressee in paragraph (i)(1)(i) of this provision. Additional copies will be issued for a fee.

(2) The DOD Index of Specifications and Standards (DODISS) and documents listed in it may be obtained from the:

Department of Defense Single Stock Point (DoDSSP)
Building 4, Section D,
700 Robbins Avenue
Philadelphia, PA 19111-5094
Telephone (215) 697-2667/2179
Facsimile (215) 697-1462.

(i) Automatic distribution may be obtained on a subscription basis.

(ii) Order forms, pricing information, and customer support information may be obtained--

(A) By telephone at (215) 697-2667/2179; or

(B) Through the DoDSSP Internet site at <http://assist.daps.mil>.

(3) Nongovernment (voluntary) standards must be obtained from the organization responsible for their preparation, publication or maintenance.

(j) Data Universal Numbering System (DUNS) Number. (Applies to offers exceeding \$25,000.) The offeror shall enter, in the block with its name and address on the cover page of its offer, the annotation 'DUNS' followed by the DUNS number that identifies the offeror's name and address. If the offeror does not have a DUNS number, it should contact Dun and Bradstreet to obtain one at no charge. An offeror within the United States may call 1-800-333-0505. The offeror may obtain more information regarding the DUNS number, including locations of local Dun and Bradstreet Information Services offices for offerors located outside the United States, from the Internet home page at <http://www.customerservice@dnb.com>. If an offeror is unable to locate a local service center, it may send an e-mail to Dun and Bradstreet at globalinfo@mail.dnb.com.

(End of provision)

[65 FR 46058, July 26, 2000]